TB650

Trelleborg TB650 is a medium temperature, low density syntactic epoxy tooling board designed for the manufacture of accurate and stable master models and molds.

Applications:

TB650 can be used for the following:

- Master models.
- Lay-up tools for low and medium temperature curing epoxy prepregs.

Features & Benefits:

TB650 is a premium quality, market leading tooling board.

- **Excellent dimensional stability**
  Maintains shape at elevated temperatures.
- **Direct to part manufacturing**
  Suitable for use up to 120°C.
- **High quality finish**
  Consistent high quality surface finish to achieve a premium product.
- **Low coefficient of thermal expansion**
  Predictable and accurate performance.
- **Inert surface**
  Chemically compatible with tooling prepregs.
- **Easy to use**
  Exceptionally easy to machine or hand carve, reduced sealing times.

TECHNICAL PROPERTIES		
PROPERTY	TYPICAL DATA	TEST METHOD
Color	Green	
Density	698 kg/m³	BS ISO 1183-3 : 1999
Shore Hardness	75 D	ISO 868:1998
Uniaxial Compressive Strength	50 MPa	BS EN ISO 604
Uniaxial Compressive Modulus	1,465 MPa	BS EN ISO 604
Heat Distortion Temperature	120 °C	BS 2782
Glass Transition Temperature	115 °C	BS EN ISO 11359-2
Coefficient of Thermal Expansion	45 x 10-6 / °C	BS EN ISO 11359-2
Tensile Strength	35 MPa	BS EN ISO 527
Youngs Modulus	2,175 MPa	BS EN ISO 527
Flexural Strength	45 MPa	BS EN ISO 178
Flexural Modulus	2,190 MPa	BS EN ISO 178
Shear Strength	20 MPa	ASTM D 732-10

Product Sizes

	Length	Width	Thickness
Type 1	1m	1m	49mm
Type 2	1m	1m	123mm
Type 3	1.5m	0.5m	123mm

Storage

The board should be stored in a dry warehouse.

Health & Safety

Eye protection and a face mask should be worn when working with Trelleborg TB650.
Please refer to the Trelleborg MSDS.

Cutting Guidelines

TB650 can be sawn using carbide or diamond coated saw blades or cutting wheels.

Bonding Guidelines

Large patterns can be constructed from boards using the appropriately selected epoxy adhesive system.Trelleborg adhesive system 551A/B is recommended.The adhesive system must offer adequate pot life and be capable of meeting the mechanical and thermal properties of the tooling board.

To ensure good bonding:

- The adhesive should be applied to both surfaces (dust free) using a notched spatula.
- The surfaces should be brought together and a uniform clamping pressure applied by either mechanical or vacuum means.
- Any surplus adhesive that extrudes from bond lines after curing can be machined off.
- Bonded joints should be left to cure for 24 hours at ambient temperature for best results.

The recommended adhesive has matched characteristics to the TB650 material.

Machining Advisory

In order to avoid board distortion it is recommended that stock removal should be taken equally from opposing faces. Where this is not possible, then the board should be supported by and bonded to additional layers.

To minimize distortion when machining large flat boards, it is advisable to rough cut one face, invert the board and machine the rear face, re-invert and complete the machining. The board can be finished by the use of successively finer grades of wet and dry abrasive paper.

Machining Guidelines

The machining information provided is for guidance purposes only. It is advised that individual users should determine the appropriate speeds, feed, cutters and depths for their own specific application.

TYPICAL PROPERTIES	
Roughing Speed	5,000 rpm
Roughing Feed	9 m/min
Cutter Type	40 mm Ball Nose Cutter
Step Down	10 mm
Step Over	15 mm
Finishing Speed	7,500 rpm
Finishing Feed	9 m/min

Contact Us

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